

specifying the X coordinate, Yin is switched to a high-impedance mode to prevent it from distorting the measurement result. Correspondingly, Xin is switched to a high-impedance mode when the Y coordinate is being specified.

[0029] Another alternative method for manufacturing a touch sensitive element 19 is to use an EMFi membrane (not shown). The EMFi membrane consists of a porous polypropylene membrane, which is coated with an electricity conducting metal layer. The pores of the polypropylene membrane have an electric charge, whereby the force effect targeted at the EMFi membrane presses the porous polypropylene membrane, which causes a change in the intensity of the electric field of the EMFi membrane. This again causes a transfer of charges between metal surfaces. This transfer of charges can be detected by switching the metal surfaces to an external electrical circuit, in which the current strength in this circuit is measured.

[0030] Because in a mobile station 1 according to a preferred embodiment, the keyboard 4 is implemented by using a touch sensitive element 19, there is much more room left on the circuit board (not shown) for other components. Alternatively, the circuit board can be made thinner or its size reduced considerably, whereby the manufacturing costs of the mobile station 1 are also substantially reduced. This is due to the fact that in the prior art implementations the keyboard is normally constructed on a circuit board. In a mobile station 1 according to the invention, only four lines need to be drawn on the circuit board for the keyboard.

[0031] With a mobile station 1 according to a preferred embodiment, it is very easy to change the keyboard 4 to one with a different appearance, location, number or meaning of the keys 15a, 15b. This can be done by changing the desired keyboard mat 16 to the mobile station and by programming the coordinates and meaning of the keys in place of the old ones. It is also possible to save many different keyboard appearances to the memory 23 of the mobile station 1, whereby the keyboard can be changed by changing the keyboard mat 16 to the mobile station 1 and by selecting the setting corresponding to the keyboard mat 16 from the menu of the mobile station 1. This provides, among other things, the advantage that companies that manufacture mobile stations need not manufacture different mobile stations for each different language area, but the same model of a mobile station can be used in all the places where the same telecommunications standard is used. The manufacturers need to take the appearance of the keyboard 4 into account at the end of the manufacturing process by installing the correct keyboard mat 16 in the mobile station and by selecting from the menu of the mobile station 1 the setting which corresponds to the keyboard mat 16 or by programming the coordinates and meaning of the keys in place of the old ones.

[0032] The mobile station can also be implemented so that the keyboard element 3 is arranged in relation to the body housing element 2 as turning by means of at least one hinge 26 as shown in FIG. 5. In this case the display 5 and the keyboard 4 are located preferably so that when the keyboard element 3 is in the closed position, or the keyboard element functions as protection for the display 3, the keyboard 4 is within the mobile station 1. In order to make it possible to use the telephone functions without turning the keyboard element out, another display 24 and another keyboard 25 are preferably arranged in the mobile station as shown in FIG. 6. This other keyboard 25 preferably comprises only the keys needed for using all the telephone functions. The other display 24 is

preferably such that all the necessary information for using the telephone functions can be shown on it.

[0033] It is clear that in practical applications, the mobile station 1 according to the invention can differ from the embodiments described above. For example, the mobile station 1 can be implemented so that the keyboard is disposed in the body housing element 2 and the display 5 in an exposable, sliding or turning display element. It is also possible to install both the keyboard 4 and the display in the body housing element 2, but then the size of the mobile station would become larger than in the embodiments described above.

[0034] The disclosed embodiments are not limited to the above described embodiments only, but its details can be modified without departing from the scope defined by the attached claims.

What is claimed is:

1. An electronic device, having a keyboard, said keyboard comprising:

a touch sensitive element, a keyboard plate fixed over the touch sensitive element;

an array of keys integrally constructed in the keyboard plate at predetermined positions, wherein the depression of one of said keys of the keyboard plate causes said key to touch the touch sensitive element at a recognizable position on a coordinate grid of the touch sensitive element corresponding to the position of the key that is depressed; and

wherein the electronic device comprises a processor for correlating a predetermined meaning of the depressed key with the position on the grid of said touching on the touch sensitive element.

2. The electronic device according to claim 1, wherein the keyboard plate is a keyboard mat.

3. The electronic device according to claim 1, wherein the keyboard plate is a bubble membrane.

4. The electronic device according to claim 1, wherein the keyboard is slidably mounted in the electronic device.

5. The electronic device according to claim 1, which comprises at least one body housing element, wherein the keyboard is arranged for turning in relation to the body housing element.

6. The electronic device according to claim 5, wherein the keyboard is turnable between a first and a second extreme position, and further wherein, in the first extreme position the keyboard is preferably placed over the body housing element so that the keyboard functions as protection for the display and the keyboard is at least partly invisible, and in the second extreme position the keyboard is positioned so that the keyboard and the display are essentially entirely exposed.

7. The electronic device according to claim 6, further comprising another display and a second keyboard arranged for activating one or more functions of the electronic device preferably when the keyboard is in said first extreme position.

8. A method for controlling the functions of an electronic device comprising:

fixing a keyboard plate over a touch sensitive element;

forming an array of keys in the keyboard plate at predetermined positions, wherein depression of one of said keys of the keyboard plate causes said key to touch the touch sensitive element at a recognizable position on a coordinate grid of the touch sensitive element corresponding to the position of the key that is depressed; and